

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Present Application

Applicants : Kenneth H. Abbott et al.
Filed : July 16, 2001
For : THEMATIC RESPONSE TO A COMPUTER USER'S
CONTEXT, SUCH AS BY A WEARABLE PERSONAL
COMPUTER
Docket No. : 294438008US2

Prior Application

Application No. : 09/825,159
Filed : April 2, 2001
Art Unit : 2173

Commissioner for Patents
Washington, DC 20231

PRELIMINARY AMENDMENT

Sir:

Please amend the application as follows:

In the Specification:

Please replace the paragraphs beginning at lines 4 and 14 of page 1 with the following paragraphs, respectively.

This application is a continuation of U.S. Patent Application No. 09/825,159, filed April 2, 2001 and currently pending. U.S. Patent Application No. 09/825,159 is a continuation-in-part of U.S. Patent Application No. 09/216,193 (Attorney Docket No. 29443-8001), filed December 18, 1998 and entitled "Method and System for

Controlling Presentation of Information to a User Based on the User's Condition"; of U.S. Patent Application No. 09/464,659 (Attorney Docket No. 29443-8003), filed December 15, 1999 and entitled "Storing and Recalling Information to Augment Human Memories"; and of U.S. Patent Application No. 09/724,902 (Attorney Docket No. 29443-8002), filed November 28, 2000 and entitled "Dynamically Exchanging Computer User's Context," which claims the benefit of provisional U.S. Patent Application No. 60/194,006 filed April 2, 2000, each of which are hereby incorporated by reference in their entirety.

U.S. Patent Application No. 09/825,159 also claims the benefit of provisional U.S. Patent Application No. 60/193,999 (Attorney Docket # 29443-8008), filed April 2, 2000 and entitled "Obtaining And Using Contextual Data For Selected Tasks Or Scenarios, Such As For A Wearable Personal Computer," and of provisional U.S. Patent Application No. 60/194,123 (Attorney Docket # 29443-8024), filed April 2, 2000 and entitled "Supplying And Consuming User Context Data," both of which are hereby incorporated by reference in their entirety.

In the Claims:

Please cancel claims 1-133.

Please add the following new claims:

134. (New) A method for assisting a user of a wearable computing device in creating a theme for use in presenting information to the user, a current context of the user being represented by a plurality of context attributes that each model an aspect of the context, multiple previously created themes each modeling a distinct contextual situation of the user and each having associated information to be presented to the user when the modeled contextual situation of the theme matches a current contextual situation of the user, the modeling of a contextual situation by specifying multiple context attributes and by specifying one or more possible values associated with each of the specified context attributes, the method comprising:

receiving an indication of the multiple previously created themes;

receiving an indication of a current contextual situation of the user that includes current values for at least some of the plurality of context attributes;

determining that one of the multiple previously created themes models the current contextual situation such that each of the context attributes specified for that one theme has a current value indicated in the received current context information that matches one of the specified possible values associated with that context attribute;

presenting to the user the information that is associated with the one previously created theme;

receiving an indication from the user that the presented information is inappropriate for the user based on the current contextual situation; and

in response to the received indication, creating a new theme that models the current contextual situation and that has associated information that is appropriate for the user based on the current contextual situation,

so that the user receives information that is appropriate to contextual situations in which the user is situated.

135. (New) The method of claim 134 wherein the received indication from the user includes an indication of the information that is appropriate for the user based on the current contextual situation.

136. (New) The method of claim 135 including presenting the indicated appropriate information to the user.

137. (New) The method of claim 134 wherein the received indication from the user includes an instruction to create the new theme.

138. (New) The method of claim 134 including, after the creating of the new theme, receiving an indication of a new contextual situation of the user, determining that the new theme models the new contextual situation, and presenting to the user the information that is associated with the new theme.

139. (New) The method of claim 134 wherein the creating of the new theme includes:

receiving indications from the user that specify multiple context attributes for the new theme; and

receiving indications from the user that specify one or more possible values associated with each of the specified context attributes.

140. (New) The method of claim 139 including storing the new theme in such a manner that the new theme will be used to present the appropriate information to the user in the future, the stored new theme including indications of the specified multiple context attributes and the specified one or more possible values associated with each of the specified context attributes.

141. (New) The method of claim 134 wherein the creating of the new theme includes receiving an indication from the user of a theme layout that specifies the information that is appropriate to the current contextual situation and that specifies a manner of presenting the specified information to the user.

142. (New) The method of claim 141 including creating the indicated theme layout based on indications received from the user.

143. (New) The method of claim 142 wherein the creating of the new theme layout includes receiving indications from the user of multiple existing theme layouts and combining at least portions of the information specified by each of the existing theme layouts for use as the appropriate information.

144. (New) The method of claim 141 wherein the indicated theme layout additionally specifies interaction controls to be presented to the user to provide functionality that is appropriate to the current contextual situation.

145. (New) The method of claim 134 wherein the creating of the new theme that models the current contextual situation includes ensuring that the current contextual situation is no longer modeled by the one previously created theme.

146. (New) The method of claim 134 wherein multiple themes can match a contextual situation, and wherein the creating of the new theme includes prioritizing the new theme to be higher than the one previously created theme so that the new theme will be selected in the future when the user is again in the current contextual situation.

147. (New) The method of claim 134 including monitoring the user or a surrounding environment of the user in order to produce the current context information.

148. (New) The method of claim 134 wherein the contextual situations modeled by the multiple previously created themes relate to activities of the user.

149. (New) The method of claim 134 including:

- receiving an indication of a new contextual situation of the user;
- determining that none of the multiple previously created themes or the new created theme models the new contextual situation; and
- creating a second new theme that models the new contextual situation and that has associated information that is appropriate for the user based on the new contextual situation.

150. (New) The method of claim 149 including, before the creating of the second new theme, indicating to the user that no created theme models the new contextual situation.

151. (New) The method of claim 149 wherein the creating of the second new theme is in response to an indication received from the user.

152. (New) A computer-implemented method for defining a theme for use by a computing device in presenting information that is appropriate to a contextual situation represented by the theme, the method comprising:

receiving one or more indications of multiple context attributes that are related to the represented contextual situation;

receiving one or more indications of criteria for determining values of the indicated context attributes that match the represented contextual situation;

receiving one or more indications of information that is appropriate to the represented contextual situation; and

defining a theme based on the received indications that can be used by the computing device to present the appropriate information when context information for a contextual situation includes values for the indicated context attributes that are determined by the indicated criteria to match the represented contextual situation.

153. (New) The method of claim 152 including:

receiving an indication of context information for a current contextual situation that includes values for context attributes;

determining that the defined theme matches the current contextual situation by using the indicated criteria for the defined theme to determine that the included context attribute values contain values of the indicated context attributes for the defined theme that are determined to match the represented contextual situation; and

in response, presenting the indicated information for the defined theme.

154. (New) The method of claim 152 wherein the received indications are from a user of the computing device.

155. (New) The method of claim 152 wherein the represented contextual situation is a contextual situation of the computing device and/or of a user of the computing device.

156. (New) The method of claim 152 wherein the defining of the theme includes associating a priority with the defined theme for use when selecting one of multiple defined themes that each represent a contextual situation.

157. (New) The method of claim 156 wherein the priority is based on a degree of interest of a user in the represented contextual situation.

158. (New) The method of claim 156 wherein the priority is based on a degree of importance of the represented contextual situation.

159. (New) The method of claim 156 wherein the priority is based on a degree of urgency of the represented contextual situation.

160. (New) The method of claim 152 wherein the defining of the theme includes associating logic with the defined theme that can perform appropriate functionality when the defined theme matches a contextual situation.

161. (New) The method of claim 152 wherein the defining of the theme includes associating permission information with the defined theme that specifies types of access to the defined theme that are allowed.

162. (New) The method of claim 152 wherein the defining of the theme includes associating security information with the defined theme that specifies access information needed to obtain access to the defined theme.

163. (New) The method of claim 152 wherein the defining of the theme includes associating a privacy setting with the defined theme that specifies a level of privacy for the defined theme.

164. (New) The method of claim 152 wherein the defining of the theme includes associating a theme-sharing setting with the defined theme that specifies whether information about the defined theme is to be made available to other themes.

165. (New) The method of claim 152 wherein the defining of the theme includes associating the defined theme with a category of themes.

166. (New) The method of claim 152 wherein the defining of the theme includes associating the defined theme with a group of related themes.

167. (New) The method of claim 152 wherein the defining of the theme includes defining a hierarchical relationship of the defined theme to other themes.

168. (New) The method of claim 152 wherein the defining of the theme includes associating a theme layout with the defined theme that includes one or more indications of the indicated appropriate information for the defined theme.

169. (New) The method of claim 168 wherein the associated theme layout further includes one or more indications of a manner of presenting the indicated appropriate information.

170. (New) The method of claim 168 wherein the defining of the theme includes defining the theme layout based on received indications.

171. (New) The method of claim 152 wherein the defining of the theme includes associating multiple distinct theme layouts with the defined theme that each include indications of distinct information to be presented when that theme layout is selected.

172. (New) The method of claim 152 wherein the indicated appropriate information for the defined theme is structured in multiple portions each having distinct types of information that are to be displayed simultaneously.

173. (New) The method of claim 172 wherein the distinct types of information include textual information and image information.

174. (New) The method of claim 152 wherein the indicated appropriate information for the defined theme is an indicated type of information that is relative to the computing device using the defined theme or to a user of the computing device, such that the information to be presented for the defined theme will be information that is specific to the computing device or the user and that is of the indicated type.

175. (New) The method of claim 152 wherein the indicated appropriate information for the defined theme includes indications of multiple distinct sources from which the appropriate information is to be gathered for presentation.

176. (New) The method of claim 152 wherein the indicated appropriate information for the defined theme includes types of information for a person, object or location that is a topic at the time of the presentation of the appropriate information.

177. (New) The method of claim 152 wherein the indicated appropriate information for the defined theme includes types of information for an activity that is occurring at the time of the presentation of the appropriate information.

178. (New) The method of claim 152 wherein at least one of the indicated context attributes for the defined theme is a new context attribute, and wherein the defining of the theme includes:

receiving an indication to define the new context attribute; and

defining the new context attribute in response to the received indication.

179. (New) The method of claim 152 wherein the defining of the theme includes receiving an indication to generate a new context server module capable of generating values for at least one of the indicated context attributes, and generating the new context server module in response to the received indication.

180. (New) The method of claim 152 wherein the defining of the theme includes receiving an indication to generate a new context client module capable of producing responses appropriate to the represented contextual situation, and generating the new context client module in response to the received indication.

181. (New) The method of claim 152 wherein the indicated criteria for the defined theme indicates possible values for each of the indicated context attributes.

182. (New) The method of claim 152 wherein at least one of the indicated context attributes for the defined theme represents information about a user of the computing device.

183. (New) The method of claim 182 wherein the represented information reflects a modeled mental state of the user.

184. (New) The method of claim 152 wherein at least one of the indicated context attributes for the defined theme represents information about the computing device.

185. (New) The method of claim 152 wherein at least one of the indicated context attributes for the defined theme represents information about a physical environment.

186. (New) The method of claim 152 wherein at least one of the indicated context attributes for the defined theme represents information about a cyber-environment of a user of the computing device.

187. (New) The method of claim 152 including defining multiple themes based on received indications that each represent distinct contextual situations.

188. (New) The method of claim 152 including distributing the defined theme to at least one computing device for use by those computing devices in presenting appropriate information in response to an occurrence of the represented contextual situation.

189. (New) The method of claim 152 wherein the receiving of the indications are from a user in response to presenting inappropriate information for the represented contextual situation.

190. (New) The method of claim 189 wherein the presenting of the inappropriate information is based on another defined theme, and wherein the defining of the theme is performed in such a manner that the defined theme will be used to present the appropriate information in response to future occurrences of the represented contextual situation.

191. (New) The method of claim 152 wherein the receiving of the indications are from a user in response to a provided indication that appropriate information for the represented contextual situation is not available.

192. (New) A computer-readable medium whose contents cause a computing device to create a theme for use by a computing device in presenting information that is appropriate to a contextual situation represented by the theme, by performing a method comprising:

receiving one or more indications of multiple context attributes that are related to the represented contextual situation;

receiving one or more indications of criteria for determining values of the indicated context attributes that match the represented contextual situation;

receiving one or more indications of information that is appropriate to the represented contextual situation; and

creating a theme based on the received indications that can be used by the computing device to present the appropriate information when context information for a contextual situation includes values for the indicated context attributes that are determined by the indicated criteria to match the represented contextual situation.

193. (New) The computer-readable medium of claim 192 wherein the computer-readable medium is a data transmission medium transmitting a generated data signal containing the contents.

194. (New) The computer-readable medium of claim 192 wherein the computer-readable medium is a memory of a computer system.

195. (New) A computing device for defining a theme for use by a computer in presenting information that is appropriate to a contextual situation represented by the theme, comprising:

a first input component capable of receiving one or more indications of multiple context attributes that are related to the represented contextual situation and of receiving one or more indications of criteria for determining values of the indicated context attributes that match the represented contextual situation;

a second input component capable of receiving one or more indications of information that is appropriate to the represented contextual situation; and

a theme definition component capable of defining a theme based on the received indications that can be used by the computer to present the appropriate information when context information for a contextual situation includes values for the indicated context attributes that are determined by the indicated criteria to match the represented contextual situation.

196. (New) The computing device of claim 195 wherein the first input component, second input component, and theme definition component are executing in memory of the computing device.

197. (New) The computing device of claim 195 wherein the computing device is a wearable computer.

198. (New) A computer system for defining a theme for use by a computing device in presenting information that is appropriate to a contextual situation represented by the theme, comprising:

means for receiving one or more indications of multiple context attributes that are related to the represented contextual situation;

means for receiving one or more indications of criteria for determining values of the indicated context attributes that match the represented contextual situation;

means for receiving one or more indications of information that is appropriate to the represented contextual situation; and

means for defining a theme based on the received indications that can be used by the computing device to present the appropriate information when context information for a contextual situation includes values for the indicated context attributes that are determined by the indicated criteria to match the represented contextual situation.

199. (New) A method for defining a theme for use in providing to a user of a portable computing device an appropriate response to a contextual situation represented by the theme, the method comprising:

receiving an indication of context information for a current contextual situation that includes multiple context attribute values;

determining a response to provide to the current contextual situation based on at least some of the multiple context attribute values;

providing the determined type of response to the user;

receiving an indication from the user that a specified type of response is more appropriate to the current contextual situation than the determined type of response; and

in response to the received indication, defining a theme that represents the current contextual situation and that is associated with the specified type of response, so that the defined theme can be used to provide the specified type of response for other occurrences of the current contextual situation.

200. (New) The method of claim 199 wherein the determining of the response to provide to the current contextual situation includes identifying one of multiple previously defined themes such that the one theme matches the current contextual situation and is associated with the determined type of response.

201. (New) The method of claim 199 wherein the determining of the response to provide to the current contextual situation includes determining that none of multiple previously defined themes matches the current contextual situation and selecting the determined type of response as a default type of response.

202. (New) The method of claim 199 wherein the determined type of response is to provide no response.

203. (New) The method of claim 199 wherein the defined theme includes one or more indications of multiple context attributes that are related to the represented contextual situation, one or more indications of criteria for determining values of the indicated context attributes that match the represented contextual situation, and one or more indications of information that is appropriate to the represented contextual situation.

204. (New) The method of claim 199 wherein the specified type of response includes presenting information to the user.

205. (New) The method of claim 199 wherein the specified type of response includes providing functionality to the user that is appropriate to the current contextual situation.

206. (New) The method of claim 199 wherein the specified type of response includes presenting interaction controls to the user that are appropriate to the current contextual situation.

207. (New) The method of claim 199 including defining multiple themes based on received indications that each represent distinct contextual situations.

208. (New) The method of claim 199 wherein the received indication from the user includes an instruction to define the theme.

REMARKS

Applicants have added claims 134-208 in order to clarify the subject matter of their invention, and have also canceled claims 1-133. Thus, claims 134-208 are now pending.

Applicants respectfully request consideration of this application and its early allowance.

Respectfully submitted,
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APPENDIX – SPECIFICATION
MARKED TO SHOW CHANGES

Paragraphs beginning at Page 1, lines 4 and 14, respectively:

This application is a continuation of U.S. Patent Application No. 09/825,159, filed April 2, 2001 and currently pending. U.S. Patent Application No. 09/825,159 [This application] is a continuation-in-part of U.S. Patent Application No. 09/216,193 (Attorney Docket No. 29443-8001), filed December 18, 1998 and entitled “Method and System for Controlling Presentation of Information to a User Based on the User’s Condition”; of U.S. Patent Application No. 09/464,659 (Attorney Docket No. 29443-8003), filed December 15, 1999 and entitled “Storing and Recalling Information to Augment Human Memories”; and of U.S. Patent Application No. 09/724,902 (Attorney Docket No. 29443-8002), filed November 28, 2000 and entitled “Dynamically Exchanging Computer User’s Context,” which claims the benefit of provisional U.S. Patent Application No. 60/194,006 filed April 2, 2000, each of which [. Each of these applications] are hereby incorporated by reference in their entirety.

U.S. Patent Application No. 09/825,159 [This application] also claims the benefit of provisional U.S. Patent Application No. 60/193,999 (Attorney Docket # 29443-8008), filed April 2, 2000 and entitled “Obtaining And Using Contextual Data For Selected Tasks Or Scenarios, Such As For A Wearable Personal Computer,” and of provisional U.S. Patent Application No. 60/194,123 (Attorney Docket # 29443-8024), filed April 2, 2000 and entitled “Supplying And Consuming User Context Data,” both of which are hereby incorporated by reference in their entirety.